



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/619,665

07/15/2003

Sung-Jae Moon

YOM-0038

7173

23413 7590 04/08/2008  
CANTOR COLBURN, LLP  
20 Church Street  
22nd Floor  
Hartford, CT 06103

EXAMINER

DUDEK, JAMES A

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

04/08/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/619,665	<b>Applicant(s)</b> MOON, SUNG-JAE	
	<b>Examiner</b> /James A. Dudek/	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,9,11,12,14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-2, 9, 11-12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6624857 B1 (857) in view of US 6392719 B2.**

Per claims 1-2, 857 teaches the liquid crystal display comprising:

TFT array [shown in figure 4, the region where the scan and data lines 2 and 3 cross] including a plurality of first display signal lines [gate lines 2], a plurality of second display signal lines crossing the first display signal lines [data lines 3], a plurality of switching elements connected to the first display signal lines and the second display signal lines [transistors at the cross points of the gate and data lines shown in figure], a plurality of pixel electrodes connected to the switching elements [pixel 14];

a driver disposed on the TFT array panel proximate to one edge of the TFT array panel [driver is 20b and the one edge of the panel is the top edge of the panel when viewing figure one];

an inspection line formed on the TFT array panel and under the driver for receiving the test signals to the second display signal lines [lines 21a-21b and 22a-22b; see column 20, third full paragraph, the inspection lines are formed at the same time as the gate and source electrodes, and then the driver 20 is connected after the formation of the panel, thus the driver 20b is above the inspection lines], and

a test pad formed on the TFT array panel and connected to the inspection line for receiving a test signal [32a-32b and 39a-39b], wherein the test pad is disposed between the driver and an edge of the TFT array panel [see figure 4]

Art Unit: 2871

wherein the inspection line is separated from the first and second display signal lines, the switching elements, and the pixel electrodes [the TFT 26b provide the separation, that is the source is connected to the inspection lines and the drain is connected to the data lines, these two lines are separated with the semiconductor between them],

the test pads are direction between the driver and the one edge [see figure 1, the test pads are direction between the driver and the top of the panel and

the inspection line and second display signal lines are electrically separated [see column 8, lines 15-21, when the inspection TFT is switch off, an electrical separation is created between the second signal line the inspection lines].

Lacking from 857 is the inspection lines passing directly under the driving circuit. However, 719 teaches passing inspection lines under the drivers. Accordingly, it would have been obvious to one of ordinary skill at the time of invention to combine the location of the inspection lines under the driving circuits like that of 719 with 857 in order to decrease the cell size and element the step of scribing the substrate after testing.

Per claim 9, see the last paragraph of column 25.

Per claims 11-12, 857 teaches the liquid crystal display of claim 10, further comprising a connecting member including the same layer as the pixel electrodes, wherein the connecting member is connected to at least one of the at least one inspection line and the second display signal line [see description of embodiments one and two]

**Claims 3-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over 857 in view of US 6424400 B1 (400), as applied to claims 1-2, 9 and 11-12, and further in view of US 6392719 B2.**

Per claim 4-6 and 8-9, 857 teaches the liquid crystal display of claim 3, but lacks a plurality of straight connecting lines interconnecting chip drivers [see line 13] wherein the test pad is closer to an edge of the liquid crystal panel than to the connecting lines and a plurality of flexible printed circuit films attached to the liquid crystal panel, wherein the external devices are the flexible printed circuit films. However, 400 teaches each of these limitations as shown in figure 8 with chip drivers 3, tabs 11 and extending lines 10. 400 teaches that liquid crystal cells benefit from this structure with increased image quality. See column 2, 8<sup>th</sup> paragraph.

Art Unit: 2871

*Accordingly, it would have been obvious to one of ordinary skill at the time of invention to combine the chip extending lines and tabs of 400 with 857 to improve image quality.*

***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /James A. Dudek/ whose telephone number is 571-272-2290. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James A. Dudek/  
Primary Examiner  
Art Unit 2871